April 25, 2007

Members of the Resource Development
Coordinating Committee
5110 State Office Building
Salt Lake City, Utah 84114

Dave Grierson
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Re: Comments on Nomination of 23,088 Acres in Clyman Bay and on Proposed Development of 8,000 Acres in Bear River Bay for Mineral Salts Extraction.

Dear RDCC Members and Mr. Grierson,

I write these comments on behalf of the Audubon Council of Utah – including the four local societies of Bridgerland Audubon, Great Salt Lake Audubon, Red Cliffs Audubon and Wasatch Audubon; FRIENDS of Great Salt Lake; League of Women Voters of Salt Lake; National Audubon Society; The Nature Conservancy of Utah; Utah Airboat Association; Utah Rivers Council and, Utah Waterfowl Association. The purpose of these comments is two-fold. First, we urge you to reject the nomination of 23,088 acres in Great Salt Lake, near Clyman Bay for mineral salts leasing and conversion to diked evaporation ponds until sufficient information has been acquired and analyzed. We recommend this action because the Division of Forestry, Fire & State Lands ("Division") and the Resource Development Coordinating Committee ("RDCC") currently lack the information necessary to determine the potential impacts of this diking project on public trust values. Because this expansive diking and conversion proposal is almost certain to impair the navigation, wildlife habitat, aquatic beauty, public recreation, and water quality in Great Salt Lake, the State of Utah must analyze and understand the impacts of the diking proposal before allowing leasing to proceed. This is particularly true because the Clyman Bay expansion is inextricably linked to a larger expansion project which includes development of 8,000 acres in Bear River Bay, which has been identified by the Division of Wildlife Resources as particularly important habitat for water birds.

The second purpose of these comments is to alert the Division and RDCC members to legal requirements and opportunities relative to existing leases for mineral salts extraction in Bear River Bay. Great Salt Lake Minerals has announced a comprehensive Potassium Sulfate Expansion Plan, which include converting 8,000 acres of this critically important wildlife area to essentially sterile evaporation ponds. This part of the expansion plan will also undoubtedly interfere with and substantially impair navigation, fish and wildlife habitat, aquatic beauty, public recreation, and water quality – the statutorily designated public trust values. These Bear River Bay leases were issued in the mid-1960s and have not been subject to any environmental analysis or planning, much less any determination whether leasing and development of these lands is in

keeping with the State of Utah's public trust responsibilities. Because these responsibilities must be met and public trust values must be protected, we point out various opportunities which will allow the Division particularly, and the State of Utah generally, to fulfill its public trust duties. We urge the Division and RDCC members to take advantage of these mechanisms so that they can comply with their obligation to safeguard the sovereign lands of Great Salt Lake.
To explain our position more fully we make the following points in detail below:

- First, we give a brief overview of the Great Salt Lake Mineral development proposal, establishing the magnitude of the plan to dike and convert 33,000 additional acres of the bed of Great Salt Lake into giant evaporation ponds, including the 23,088 acre proposal currently before the Division and RDCC. The magnitude of the proposal is acknowledged. The Great Salt Lake Comprehensive Management Plan (CMP) approved 1,047,691 acres that are in the "open" category for leasing. We also point out that the 23,088 proposal is inseparably connected to the proposal to expand development in the Bear River Bay by 8,000 acres. The 23,088 acres is the issue on which this Record of Decision reviews. Acreage in the Bear River Bay has been already been approved for leasing and is under lease.
- Second, we set forth the Division's legal responsibilities in managing Great Salt Lake – both its public trust responsibilities and its site-specific planning obligations that are implicated by this nomination.
- Third, we point out that, while the Division may be ultimately responsible for managing Great Salt Lake in keeping with the public trust, the public trust obligation applies to all relevant agencies of the State of Utah, including the Division of Wildlife Resources and the Division of Water Quality.
- Fourth, we examine current planning efforts relevant to Great Salt Lake and mineral development for the lake, noting that the planning documents:
    - do **not** undertake site-specific analysis, much less analysis sufficient to allow the Division and RDCC members to evaluate the nomination or fulfill their public trust obligations; underscore that diking and conversion projects such as that proposed by Great Salt Lake Minerals promise to have significant adverse impacts on public trust resources – impacts that the documents did **not** then analyze; The Division has created a resource plan (for minerals) and a comprehensive management plan for Great Salt Lake. By rule one or more plans are required and the Division has exceeded. In addition, the RDCC helps to further refine policy and direction on the lake by a review of each of the proposed projects with an opportunity for public comment and agency review. Issues and concerns brought forth during this RDCC process provides can be implemented in the leases themselves as stipulations. and,
    - are out-of-date and fail to address significant issues relevant to the fulfillment of the public trust obligation. The Great Salt Lake Mineral Lease Plan was approved in 1996 and the Great Salt Lake Comprehensive Management Plan was approved in 2000. In the comprehensive management planning process, the Mineral Leasing Plan was revisited and affirmed and made part and parcel to the comprehensive management plan.

- Fifth, we underscore that the Great Salt Lake Minerals' proposed 33,000 acre expansion is designed to be a single, coordinated project, rather than two separate new operations. The expansion proposal itself describes how the 25,000 acre expansion on the west side of the

lake will increase the concentration of brine transported to the East Ponds, where the proposed 8,000 acre expansion in Bear River Bay will increase the potassium harvest from those ponds – and therefore that the west side expansion is inextricably connected to the expansion in Bear River Bay. We then list the many significant adverse impacts to Bear River Bay that are likely ensue as related consequences of the west side development.

- Sixth, we point out that even if the entire 33,000 acre proposal is subject to environmental review by the U.S. Army Corps of Engineers, it is incumbent upon the State of Utah to fulfill its public trust obligations. We therefore repeat the need for the Division and RDCC to:
  - collect and acquire sufficient analysis to set forth appropriate protective lease stipulations and restrictions prior to offering the 23,088 acres of sovereign lands for competitive leasing, or decide not to offer the lands for leasing if no stipulations could adequately protect the public trust resources; and,
  - with opportunity for public comment, collect and acquire additional information – prior to committing the State to allowing **any** development on the existing or proposed leases – of sufficient breadth and detail to allow the Division and RDCC to determine whether the proposed development will impair public trust resources.
- Seventh, we reiterate the significant value the Division of Wildlife Resources and others have ascribed to Bear River Bay and the particular areas slated for diking and conversion. We also repeat that, while the consensus is that development of these parcels threatens the public trust, no public trust analysis has been undertaken with regard to these parcels. We therefore point out opportunities that will allow compliance with public trust obligations in the context of the existing leases and existing planning documents.
- Eighth, we conclude by reiterating the need for the Division and the RDCC members to acquire and analyze the information they need to ensure that the entire proposed diking and conversion expansion will not harm the public trust values they are statutorily required to protect.

1. The Great Salt Lake Minerals Expansion Proposal

Currently, Great Salt Lake Minerals operates 43,000 acres of solar evaporation ponds on Great Salt Lake. According to the company, this includes 21,000 acres of salt ponds in Clyman Bay on the west side lake, a 21 mile long canal running along lake bottom from west to the east side of Great Salt Lake, and 22,000 acres of solar ponds in Bear River Bay on the east side of the lake. To this existing 43,000 acre facility, Great Salt Lake Minerals plans to add significant additional facilities. On the west side, in Clyman Bay, the company proposes to build an additional 18,000 acre solar pond, and a new 7,000 acre pond, as well as a new feed canal into the lake and a new pump station powered by a diesel engine. The company maintains that it currently leases much of the land necessary to build this 7,000 acre pond and what it does not lease is presently leased by a private individual. It is an application to lease approximately 23,088 acres to facilitate this expansion of the west side of the lake that is now before the RDCC.

On the east side of the lake, in Bear River Bay, the company intends to build a new 8,000 acre solar pond. Great Salt Lake Minerals contends that it currently holds leases sufficient to construct this 8,000 acre pond in Bear River Bay.

In sum, Great Salt Lake Minerals seeks to expand its 43,000 acre operation by 25,000[1] acres[1] on the west side and 8,000 acres on the east side, for a total expansion of 33,000 acres, bringing the size of its operations to 76,000 acres or 119 square miles. This means that Great Salt Lake Minerals will have under development an area larger than Salt Lake City, which is 110 square miles – an area that takes up 13 percent of the total area of the lake when waters are low, and covers 7 percent of the lake when its levels are average. The total acreage open to salt extraction based on the "open" category in the CMP is 1.05 million acres; this proposed project is 23,088 acres or 2.2% of the total open to mineral leasing. Of the total sovereign lands (below the meander line) in Great Salt Lake, this proposed project comprises 1.23% of the lake's surface acreage. Because the existing and proposed development is concentrated in the north arm of the lake and it Bear River Bay, the impacts of the mining operations will be felt even more acutely in the part of the lake.

2. The Division's Legal Responsibilities

Public Trust Obligations

The bed of Great Salt Lake is comprised of sovereign lands. As such, the Utah Legislature has directed the Division to manage all uses of these lands in a way that "serve[s] the public interest and do[es] not interfere with the public trust." Utah Code Ann. § 65A-10-1; see also National Parks and Conservation Ass'n v. Board of State Lands, 869 P.2d 909, 919 (Utah 1993) ("the 'public trust' doctrine . . . protects the ecological integrity of the public lands and their public recreational uses for the benefit of the public at large") (citations omitted). Based on these principles, the Division has clarified that it must manage sovereign lands for the "protection of navigation, fish and wildlife habitat, aquatic beauty, public recreation, and water quality. . . ." Utah Admin. Code R652-2-200. The cited rule states that sovereign lands "...be regulated so that protection of navigation, fish and wildlife habitat, aquatic beauty, public recreation, and water quality be given due consideration and balanced against the navigational or economic necessity or justification for, or benefit to be derived from, any proposed use." The quote given by Western Resources is taken out of context or at least the remainder of the rule is omitted which gives a different view of the intention of the management objectives of sovereign lands. Indeed, the Division states, in reference to its obligation to Great Salt Lake specifically, that it is "clear that the purposes of the trust have primacy and that other uses must meet the criterion to avoid substantial impairment of public trust uses." The purposes of the trust includes the economic benefits derived from the trust resources as well as the protection of navigation, fish and wildlife habitat, aquatic beauty, public recreation, and water quality. The statement that the "... purposes of the trust have primacy..." includes the economic uses as well. As trustee, the Division must strive for an appropriate balance among compatible and competing uses specified in statute while ensuring that uses protected under the Public Trust Doctrine have primacy (CMP pg 11). The

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[1]According to Great Salt Lake Minerals, the total proposed expansion for the west side of the lake will cover 25,000 acres. However, 1,500 acres that is slated to be used for this development is already leased to a private entity. As a result, Great Salt Lake Minerals is nominating 23,088 additional acres for leasing in this area.

CMP outlines those compatible and competing uses in the plan and allocated resources according to agreements and compromises that the plan sought to accomplish. Great Salt Lake Comprehensive Management Plan (CMP) at unnumbered 9(Conclusion/Action). Said another way, the Division concluded:

> [t]here is no question that the [D]ivision's implementation of the multiple-use sustained yield statute is subject to consistency with public trust obligations. All possible uses under a multiple-use framework are not necessarily protected uses under the Public Trust Doctrine. Any private uses of sovereign lands must yield to the criterion to avoid substantial impairment of protected public uses.

CMP at unnumbered 4. This text in the CMP refers to the statutory language requiring multiple-use and sustained-yield principles in the management of sovereign lands. When there is a dichotomy between the Public Trust Doctrine and the multiple-use, sustained yield requirement in code, the Public Trust Doctrine will take precedence.

Importantly, the Division's public trust obligations are mandatory. The Division is required to ensure any use of Great Salt Lake does not interfere with navigation, fish and wildlife habitat, aquatic beauty, public recreation, and water quality on and in the lake. Again, the rule does not state the Division is required to ensure any use of the Great Salt Lake does not interfere with navigation, fish and wildlife habitat, aquatic beauty, public recreation, and water quality on and in the lake. It does state that those uses be given due consideration and balanced against the navigational or economic benefits. The Division, when weighing competing public trust responsibilities, looks at the impacts to those other responsibilities and decides whether there is "substantial impairment" with those impacts. Moreover, protection of these values trumps any other use of sovereign lands and cannot be superseded in the name of economic development or payment to the State. Nowhere in statute, rule, or the CMP does the protection of any value trump another value or use.

Planning Obligations

To help ensure that the Division manages Great Salt Lake according to its public trust responsibilities, the Division must undertake resource planning. There are three types of management plans identified in rule: Comprehensive Management Plans, Site-specific plans and Resource plans. The rule requires one or more of the plans be implemented to satisfy the code. The germane resource plan is the Great Salt Lake Mineral Leasing Plan (1996) and the comprehensive plan is the Great Salt Lake Comprehensive Management Plan (2000). These two plans together satisfy the rule (652R-90-200) and statute (65A-2-2). Site-specific plans are not required but, the Division uses RDCC to provide site-specific analysis (i.e. project specific anaylsis) and stipulations that could be implemented in the management of those lands nominated for lease. For example, the Division's regulations state that "[s]ite-specific planning shall be initiated either by: (a) an application for a sovereign land use, or (b) the identification by the division of an opportunity for commercial gain in a specific area." Utah Admin. Code R652-90-300(2).

Site-specific planning entails, *inter alia*: "(a) a comparative evaluation of the commercial gain potential of the proposed use with competing or existing uses; (b) the effect of the proposed use on adjoining sovereign lands; (c) an evaluation of the proposed use or action with regard to natural and cultural resources, if appropriate; (d) the notification of, and **environmental analysis of**, the proposed use provided by the public, federal, state and municipal agencies through the Resource Development Coordinating Committee (RDCC) process; and, (e) and further notification and evaluations as required by applicable rules." Utah Admin. Code R652-90-400 (emphasis added). Notification and analysis by RDCC began April 2, 2007 and ended on May 2, 2007. The only agency comments received were from the Division of Wildlife Resources. No stipulations were suggested, although there was a recommendation that greater site-specific analysis and survey data be completed prior to leasing. The Division of Wildlife Resources suggested the Environmental Impact Statement being developed in conjunction with the Army Corps of Engineers permitting process may be a source of such information.

In turn, the RDCC process "provides an environmental assessment for purposes of sovereign land management." Utah Admin. Code R652-90-1200. Importantly, "[t]he public may comment on proposed sovereign land uses through the RDCC and other public notification processes." Id. In addition, upon the completion of the site-specific planning process, the public "**shall**" be provided with the "Record of Decision or other document summarizing final division action and relevant facts document . . . ." Utah Admin. Code R652-90-600(3). Agreed.

Finally, Rule R652-90-400(e) obligates the Division, as part of its site-specific planning, to undertake "evaluations as required by applicable rules." R652-90-400 (e) refers to site-specific planning as a stand alone process. The site-specific planning identified in the CMP states that the RDCC process provides the site-specific planning function (i.e. review by local, state and federal agencies and the public). CMP pg 79. Also, R652-90-1200 states: "The RDCC process provides an environmental assessment for purposes of sovereign land management. The public may comment on proposed sovereign land uses through the RDCC and other public notification processes." This means that, as part of its planning, the agency must complete the analysis required by Utah Admin. Code R652-2-200 ("all uses on, beneath, or above the beds of navigable lakes . . .[shall] be regulated, so that the protection of navigation, fish and wildlife habitat, aquatic beauty, public recreation, and water quality will be given due consideration and balanced against the navigational or economic necessity or justification for, or benefit to be derived from, any proposed use"). R652-90-1200 states: "The RDCC process provides an environmental assessment for purposes of sovereign land management. The public may comment on proposed sovereign land uses through the RDCC and other public notification processes." This means that the Division must determine the supposed value of a proposed use as well as the cost to public trust resources that would result from that use. To determine if a use is appropriate, these harms and benefits must be balanced against the ultimate requirement that the proposed use cannot impair navigation, fish and wildlife habitat, aquatic beauty, public recreation, or water quality in the lake. The Division makes decisions of a proposed use by balancing the economic and navigational benefits while giving due consideration to navigation, fish and wildlife habitat, aquatic beauty, public recreation, or water quality. Rule R652-2-200 does not restrict use of sovereign land based on any impairments of those values.

3. The Public Trust Obligations of the State of Utah

Although the Division may be ultimately responsible for safeguarding, under the public trust, sovereign lands, including the bed and waters of Great Salt Lake, the State of Utah and its agencies are likewise bound by the obligation to protect public trust values. Under Utah public trust law, the State has title to the lands under Great Salt Lake up to the ordinary high water mark. Utah Division of State Lands v. United States, 482 U.S. 193, 209 (1987). These sovereign lands are held in public trust under the Utah Constitution, art. XX, §1.[2] The State must protect the lands' "uses such as commerce, navigation, and fishing," Colman v. Utah State Land Board, 795 P.2d 622, 635 (Utah 1990), as well as their "ecological integrity" and "public recreational uses," National Parks and Conservation Ass'n v. Board of State Lands, 869 P.2d 909, 919 (Utah 1993).

Public trust lands cannot be sold or leased unless the State's sovereign ownership rights can be transferred without impairing the interests protected by the public trust. Colman, 795 P.2d at 635 (quoting Illinois Cent. R.R. Co. v. Illinois, 146 U.S. 387, 455-56 (1892)) ; see also Utah Code § 23-21-4(1) ("There is reserved to the public the right of access to all lands owned by the state, including those lands lying below the official government meander line or high water line of navigable waters, for the purpose of hunting, trapping, or fishing."). "Navigable waters should not be given without restriction to private parties and should be preserved for the general public." Colman, 795 P.2d at 635; *see also* Utah Code § 23-21-4(2) (mandating that the State retain public access rights as part of any lease or sale of public trust lands). Like the State, private parties must not frustrate the purposes of the public trust. The CMP acknowledges conflicts of use but uses the rule of substantial impairment to help make decisions regarding conflict. "Even so, there are circumstances under which a lessee or grantee must be able to restrict public access to fully enjoy the rights granted under a lease, permit or sale. Examples include restrictions during mining operations, construction of improvements, harbor operations, military operations and access to personal property. The test of any disposition of an interest in sovereign land is that it must be done without any **substantial impairment** of the public interest in the lands and waters remaining. Once again, this involves a judgement call on the degree of impairment of the trust resource or the public's trust rights therein." [emphasis added] (CMP pg 12).

Thus, the Division is not alone in its duty to protect navigation, wildlife habitat, aquatic beauty, public recreation, and water quality in Great Salt Lake from any impairment, including the diking and conversion proposal slated to develop an additional 33,000 acres of the bed of the lake. RDCC member agencies, particularly the Division of Wildlife Resources and Division of Water Quality, must also apply their expertise and authority to protect public trust values. Agreed. The CMP was a collaborative effort by a number of state agencies under the direction of Great Salt Lake Board of Directors (which includes the Executive Director of the Department, the Deputy

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[2] "All lands of the State that have been, or may hereafter be granted to the State by Congress, and all lands acquired by gift, grant or devise, from any person or corporation, or that may otherwise be acquired, are hereby accepted, and, except as provided in Section 2 of this Article, are declared to be the public lands of the State; and shall be held in trust for the people, to be disposed of as may be provided by law, for the respective purposes for which they have been or may be granted, donated, devised or otherwise acquired."

Directors and the Division Directors for the Department of Natural Resources). Other state agencies were heavily involved in the development of the CMP including the Department of Environmental Quality.

4. Past Planning Efforts

The CMP and MLP are Not Site-Specific.

On March 1, 2000, the Division released its Great Salt Lake Comprehensive Management Plan and Decision Document (CMP). This and related documents, such as the May 1, 2000 CMP Resource Document, were subject to public notice and comment, and the opportunity for appeal. The CMP incorporated the June 27, 1996 Mineral Leasing Plan for Great Salt Lake (MLP) and made the decision to "open" portions of Great Salt Lake to Mineral Salts leasing and to prohibit leasing in other portions CMP at Exhibit 4. On the contrary, all lands were withdrawn from new mineral leasing until nominated. The nominated lands were only allowed to proceed if they fit into the appropriate category, and then the RDCC process would analyze at the details of the site, make appropriate stipulations if needed, and provide the "site-specific" planning as needed. Leases in these open areas contain no stipulations. Id. Stipulations could be introduced at any time during the nominating process, including those suggested by RDCC. The proposed 23,088 acre Clyman Bay expansion appears to be proposed for areas designated as open. However, the Bear River Bay expansion – apparently already leased by Great Salt Lake Minerals – is proposed for an area closed to Mineral Salts leasing. The Bear River Bay expansion is already under lease with the Division, and has been for a number of years. The CMP and the Mineral Leasing Plan only closed areas on the east side of the lake for **new leasing**.

Neither the CMP, the CMP Resource Document, nor the MLP is a site-specific planning document. None of these documents anticipates the diking of 33,000 acres of additional lands in the bed of the northwest arm of Great Salt Lake or determines the impacts the diking of these lands will have on navigation, wildlife habitat, aquatic beauty, public recreation, and water quality. Again, this Record of Decision only considers the 23,088 acres under consideration for mineral leasing. The CMP does consider diking and the impacts on wildlife, recreation, and water quality, and decided against a blanket ban on diking. Diking is a significant management tool used for not only mineral leasing, but in wildlife management areas, duck clubs and wildlife refuges. The CMP acknowledges that further study on diking needs to be undertaken, but stops short of the prevention of further diking on Great Salt Lake. I.e. see CMP at 18 ("Much of the lake is classified as open for consideration of any use, **but developments in open areas are not expected**") (emphasis added); id. ("While **little development** on the west shore is expected, it is available for development uses.") (emphasis added). None of these documents quantifies the supposed benefit that would derive from the leasing or development of land in the bed of Great Salt Lake. It is not the intent of the plan to quantify the benefits of developing lands for mineral lease. The plan provides management direction of sovereign lands using analysis, public comment, science, public policy, and law. The nominating process should provide the quantifiable benefits of leasing the lands for mineral extraction. The nomination process also helps identify special concerns, and developing stipulations that address those concerns, and making those concerns known prior to leasing.

The MLP states that currently there are 171,644 acres of the bed of Great Salt Lake under lease for mineral salts extraction. MLP at 20. The plan does not clarify whether all of these areas are currently developed and diked. The MLP concludes that:

> Mineral operations can have significant impacts (some adverse, some neutral, some possibly enhancing the lake's ecosystem) . . . through diking projects, pollution, depletion of salts in the lake, disturbance of bird populations, and other activities. The impact of mineral operations is not systematically documented nor are parameters or indicators set up which would signal if and when and to what degree a change in leasing and regulatory policies or direction might be necessary.

MLP at 41.

At the same time, echoing the "environmental analysis" obligation in Utah Admin. Code R652-90-400(d), the CMP anticipates that site-specific planning will occur before action is taken on applications to lease areas of the bed of Great Salt Lake for mineral salts development. Specifically, in response to concerns about opening the northwest portions of the lake to mineral leasing, and the need to consider additional public input on this decision, the Division promises the opportunity for public comment not only relative to the CMP, but also "through the RDCC, which is the state clearinghouse for all proposed state **actions** relating to natural resources." CMP at 79.

Moreover, in response to concerns about a failure to "consider geological hazards in **all** sovereign land use **decisions**," the Division states in the CMP that it "will follow up by requiring a site-specific analysis of potential hazards and consulting with UGS regarding the adequacy of proposed mitigation." CMP at 18. The Division also states, in response to concerns that it "downplayed" the "importance of western and northern lake and shoreline habitats to wildlife resources," not only that this habitat is "important," and that the Division's "intent is to protect wildlife and habitats wherever they occur," but also that habitat and wildlife that does occur on the west and north end of the lake "is important and will receive due consideration." CMP at 73. Indeed, the Division acknowledges that "[m]ore research and monitoring . . . will be needed in the future to understand and properly manage and conserve the lake." CMP at 75. The Planning Team has identified monitoring needs and is pursuing funding to begin those activities. Similarly, the Division states plainly that "[a]s site-specific planning is conducted in response to applications submitted that affect the development areas, alternative A for issue 5.1[3] will be taken into account." CMP at unnumbered 6 (issue 6.1); see also id. at unnumbered 7 (stating with regard to "mineral lease zones" that "[a]ction taken by Wildlife Board under alternative A in issues 5.1 and 6.1, and site-specific planning may lead to revisions of the MLP"); CMP at 19 (stating that the nomination process for mineral leases "works well for identifying special concerns, determining lease stipulations in response to those concerns, and making the

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[3]Issue 5.1 – Biology – states, in part, that "[in] light of adverse impacts to wildlife that have occurred from other management activity on [Great Salt Lake], it is important that our understanding of wildlife functions in the ecosystem improves, and that wildlife values be better protected." CMP unnumbered 6.

stipulations known at the time the lease is offered for competitive bid"). No action has been taken by the Wildlife Board to remove lands from mineral leasing and placed into a Wildlife Management Area.

The CMP Identifies, but Does Not Analyze Threats Posed by Diking and Mineral Salts Extraction.

While they are not detailed and not site-specific, the CMP and related documents plainly identify issues specifically acknowledged in connection with development, such as the 23,088 area diking and conversion proposal, that must be evaluated pursuant to any adequate analysis.

The MLP first emphasizes that dikes and diversions threaten public trust values, stating that "[a] recurrent theme is that placement of dikes and diversions can have significant and rapid impacts on various conditions in the lake." MLP at 10. The MLP then explicitly states:

> At the time of proposed development, examine the need and/or alternatives for dikes and other structures . . . to accommodate all affected resources – economic development, water level management, wildlife, navigability and other issues.

MLP at 45. Importantly, the plan also dictates that the Division will "**[e]valuate opportunities for trading existing leases with significant resource conflicts for the right to lease in areas with less conflict.**" MLP at 45. Great Salt Lake Minerals has indeed traded existing leases out of Bear River Bay for leases in areas with less impact, including Clyman Bay. Thus, the MLP requires, at a minimum, an examination of the environmental impacts from diking and an evaluation of opportunities to exchange leased parcels in sensitive areas. R652-90-1200 states that the RDCC process provides an environmental assessment for purposes of sovereign land management. The public may comment on proposed sovereign land uses through the RDCC and other public notification processes.
The CMP is more detailed. It repeated the concerns that diking proposals have significant detrimental effect on Great Salt Lake trust values and that the impact of any diking proposal must be understood before determining if it can proceed. In the Decision Document itself, the Great Salt Lake Planning Team and Utah Department of Natural Resources stated:

> Much of the public comment reflected a desire for a blanket ban on new dikes. There is no question about the adverse affects of some dikes, but other dikes serve public purposes as well as public uses protected under the Public Trust Doctrine. A blanket ban is inappropriate, but better evaluation of diking proposals is needed than has occurred in the past.

CMP at unnumbered 7; see also CMP at 78 ("The general effect of dikes on lake dynamics is acknowledged. The policy will require a more specific assessment. Blanket denial of diking proposals is not appropriate because it would preclude construction of dikes in [Wildlife Management Areas], the sovereign land portion of [Bear River Migratory Bird Refuge], and existing mineral leases. Diking proposals in these areas will be subject to the policy."); CMP at 19 ("6.4 GSL diking policy. Given the increased appreciation for habitat-related beneficial

effects of fluctuating lake levels, the objective is to ensure that on-site and off-site impacts will be taken into account when diking activity is planned.").

To implement this requirement for assessment of diking projects, the CMP states that the Division and the Division of Wildlife Resources will be lead agencies and "**will**" take the action to "require assessments" within the time frame of "plan implementation." CMP at 32.

The CMP also specifies that new information must be incorporated into planning efforts at the site-specific level in order to guide management in a way that adequately protects public trust resources. For example, the Division notes that in order to "protect the viewshed or the visual aesthetics of" Great Salt Lake it must develop a visual resource management plan. CMP at 23. The Division also notes that the "highest priority for accomplishing the goals and objectives of the" CMP and the "most critical information for lake managers at this time" is the need to collect data on the "volumes and concentrations of waterborne nutrients and heavy metals entering" Great Salt Lake. CMP at 40; The Division concurs, in fact, the Division has participated in a steering committee to look at the affects of selenium in the open waters of the lake. The Division has also contributed $200,000 towards the development of selenium standards. The Division's contract with USGS has been expanded to obtain mercury samples from the north arm of the lake. The selenium study actually takes a comprehensive look at the food web in the lake and the interrelationships of the biota found there. see also CMP at 18 ("DNR believes that a greater effort is needed to understand the wildlife functions within the ecosystem and manage to protect the existing values, mitigate the losses when practicable, and extend greater protection than has occurred historically").

The CMP also identifies, but does not analyze, potential serious adverse impacts that could result from west shore projects such as the proposed diking of 23,088 acres of the bed of Great Salt Lake based on currently imposed stipulations. For example, in the CMP, the Division notes that there are extremely "sensitive ecological interests" in the north arm that are currently "buffered by the reduced access." CMP at 20. The reduced access referred to here is the access by vessels. There is no restrictions in place that prevent hunters, curiosity seekers, and others from walking to Dolphin Island, or traveling to Gunnison in smaller boats. The islands there provide "critical habitat and nesting grounds for American white pelicans and other shorebirds." Id. However, "even minimal human presence has [been] shown to disrupt" the birds using the north arm "to the point that they move off the island to less productive habitat." Id. Moreover, the Division states while "[m]ineral operations can have significant impacts," that "[t]he impact of mineral operations is not systematically documented nor are parameters or indicators set up which would signal if and when and to what degree a change in leasing and regulatory policies or direction might be necessary." MLP at 41. It might also be argued that properly stipulated mineral leasing with associated buffering might deter human access to the islands.

The CMP Fails to Consider New Information and Fails to Analyze Significant Likely Impairments to the Public Trust

New information

Since the CMP was finalized, significant new information regarding Great Salt Lake and its public trust resources has come to light. For example, federal scientists have discovered alarmingly high levels of methlymercury in the water of Great Salt Lake. These levels represent some of the highest levels of this toxin ever discovered by the U.S. Geological Survey (USGS).

Toxic levels of mercury have also been found in Great Salt Lake waterfowl, such as northern shovelers and common goldeneyes, in such high concentrations that the Division of Wildlife Resources warned the public not to shoot or consume waterfowl from these two species. Mercury samples have been taken from the north arm with no elevated levels of mercury shown. Those levels cited were from areas of Farmington Bay which is a significant distance from the north arm. In addition, possible selenium contamination in the lake has prompted state and federal agencies, along with the public, to begin the extensive process of determining a lake-specific numeric water quality standard for this pollutant. The Division has spent $200,000 participating in this process of establishing a numeric water quality standard for selenium. It should be noted the selenium standard is for the open waters of Gilbert Bay, not anywhere in the north arm. The presumed concern of selenium is the bio-accumulation in wildlife feeding on brine shrimp. The north arm does not support a brine shrimp population on an annual basis. The brine shrimp cannot sustain themselves over the winter in such a salty condition. It also should be noted that the evaporative ponds do not add any contaminants during the concentration of brines. If there is selenium in the water before the evaporative process, there will still be selenium after the process. At the same time, another USGS study has shown high levels of contaminants in the bed of the lake.[4] These discoveries sound an alarm about water quality, casting serious doubt on the assumption that areas of the lake's deep brine layer will hold contaminants and keep them inert, and suggesting that disturbing lake sediments could be significantly detrimental to water quality. The majority of the area proposed for diking does not affect the deep brine layer. Most of the area is either not underwater at this time or under shallow water (< 6 feet deep) because the lake level is currently about 4196 feet in the north arm.

Significant information relating to public trust values not analyzed

There is also significant information directly relevant to protection of the public trust values that has never been analyzed either generally as part of a mineral leasing program or on a site-specific level. In other words, information concerning a myriad of issues does not appear in the CMP and related documents, or in any other report, study or planning record. This means that, to ensure the protection of navigation, wildlife habitat, aquatic beauty, public recreation, and water quality, this information must gathered and analyzed prior to any determination of whether the diking and conversion proposal violates the public trust.

As a general matter, there appears to be no information, studies, data or analysis quantifying the impacts that the construction and operation of the existing Great Salt Lake Minerals facilities have on public trust values. Indeed, according to the MLP, there are currently ten producing mineral leases totaling 171,644 acres operating within Great Salt Lake. MLP at 20. Like the

[4]Reconstructing Historical Changes in the Environmental Health of Watershed by Using Sediment Cores from Lakes and Reservoirs in Salt Lake Valley, Utah (December 2000).

Great Salt Lake Minerals expansion proposal, these operations involve diking and conversion of a functioning ecosystem into solar evaporation ponds and similar facilities. Yet, as the MLP admits, while "[m]ineral operations can have significant impacts," that "[t]he impact of mineral operations is not systematically documented nor are parameters or indicators set up which would signal if and when and to what degree a change in leasing and regulatory policies or direction might be necessary." MLP at 41.

Plainly, without this baseline data – without knowing if current mineral leasing is adversely impacting public trust resources – the Division is not in a position to evaluate whether expansion of these operations will negatively affect navigation, wildlife habitat, aquatic beauty, public recreation, and water quality. Moreover, given the sheer magnitude of current operations and the proposed expansion, it is almost certain that cumulatively, these diking and conversion operations are significantly impairing the public trust. This is particularly true given that, once developed, the expansion parcels are likely to remain diked and converted indefinitely, meaning that adverse impacts to public trust values will extend into the foreseeable future and will certainly have cumulative impacts over time. It is not established that diking provides substantial impairment of public trust values either in the short term or over time. There are some benefits to diking that were observed on industrial dikes including use by wildlife such as kildeers, and swallows.

Specifically, the following is a list of issues relevant to the individual and cumulative impacts and impairments that will almost certainly result from the proposed diking and conversion expansion:

- Likely impacts to **navigation, public access and public recreation**:
    - Increased diking and conversion will further limit navigation of and public access to the shoreline, as well as previously open waters of Great Salt Lake. This will in turn limit the ability of the public to recreate freely on the lake and will concentrate the public's use in a smaller area. This in turn will adversely impact navigation and recreation in these remaining smaller areas. There is virtually no navigation in the north arm right now - the area is remote, facilities are few and development to accommodate recreation and public access does not appear to be likely.
    - To the extent increased diking and conversion will adversely affect water birds and wildlife, as well as scenic values, public recreation that depends upon these values will be adversely impacted. It has not been established that diking will adversely affect water birds and wildlife, as well as scenic values. Even if that statement were true, since there is very little public recreation now, an adverse impact is insignificant.
    - Impacts to navigation and public access will be exacerbated by low water as lake volume decreases and the shoreline shrinks. The public will still be able to access the lake at key points. The presence or absence of the dikes on this mineral lease will not change that.

- Increased diking and conversion will further impede navigation and access from one part of the lake to the other – access which is already significantly impaired by existing diking and conversion. The north arm is isolated by the railroad causeway. Diking has no impact on accessing different parts of the lake. The causeway and the breach is the limiting factor for accessing the north arm from other parts of the lake.

- Likely impacts on **wildlife habitat**:

  - Increased diking and conversion will further concentrate usage in non-developed areas, thereby impacting wildlife habitat in these areas. The intensity of wildlife use is not established. The EIS should establish the usage by wildlife for these mud flats. Surveys are scheduled for Strong's Nob and along the meander line.
  - Gunnison Island, located close to the 25,000 acre expansion proposal, hosts one of the largest breeding colonies for American white pelicans in North America. Gunnison Island is now the only nesting location for American White Pelicans in Utah. Currently, Great Salt Lake Mineral dikes come within approximately four and one half miles of Gunnison Island. The expansion proposal would place dikes as close as two and one half miles of the island. It is necessary to understand what steps are required to ensure that the American white pelicans can continue to nest at Gunnison Island – yet no analysis has been undertaken. For example, particularly at lower lake levels, predators could take advantage of this diking to access breeding sites such as Gunnison Island. Predators can take advantage whenever the water level is low, to walk up to the islands. Predatory birds like gulls can fly to the island. Dikes would also increase potential human disturbances such as noise, lighting, and land vibrations. This has not been proven. Rookeries in Montana and South Dakota have dikes within .5 miles of islands with tourists taking pictures of the pelicans. Also, trains and major highways within 2.5 miles of the islands have not caused abandonment by nesting pelicans. Prior occurrences of abandonment have not ruled out disturbance by predators, severe weather, food shortages and disease. Additionally, human disturbance is such a vague term that it could be construed as almost anything including photographing. Considerable caution is needed to secure the island for the pelicans in the future.
  - The proposed expansion has the potential to impact adversely other bird life. There has been no analysis of the impact of development on the eared grebe and other birds that depend upon the north arm during periods of flood, estimated by the Division to be approximately 10% of the time. In high precipitation years, as fresh water decreases salinity in the north and south arms, brine shrimp production in the north arm will exceed that in the south arm, and birds such as the eared grebe, Wilson's phalaropes and red-necked phalaropes will necessarily rely on the ecosystem of the north arm. The same may also be true for waterfowl. By the same token, diking and conversion to evaporation ponds will be in place for several decades. Within that time frame, the causeway could be breached or actions taken to better circulate the lake's waters. Again, the north arm could

become even more important to birds such as the eared grebe. The diking should have no impact on the lake level or salinity of the lake. As flooding raises the level of the lake a concomitant drop in salinity occurs regardless of presence of extractive industries. When the north arm level raises enough for the salinity level to support brine shrimp (and therefore eared grebes), the dikes would be underwater and the ponds and the rest of the lake would be a single body of water. The birds, being opportunistic and mobile, will follow the food source, wherever it goes.

- As the proposed 25,000 acre expansion would also dike off about seven miles of shoreline on the western side of Gunnison Bay, it may adversely impact birds such as the snowy plover. Bird use in this area is largely unknown, but may well be important. The potential impacts to bird life and other flora and fauna in this area should be fully explored. Surveys along the meander, during the EIS process should reveal use by wildlife including snowy plover.
- Any impact to wildlife habitat caused by increased diking and conversion is likely to be exacerbated by low water conditions. Not established. There could be some positive impacts to wildlife habitat such as increased gull nesting.
- Adverse impacts to water quality and decreases in water quantity will adversely effect wildlife and wildlife habitat. If this is true, than it is follows that ***naturally*** low water levels will adversely affect wildlife and wildlife habitat. This has not been established. The greatest influences on the lake level are natural: wet springs, runoff, drought and high temperatures. The impact on lake level exerted by the evaporative ponds is almost negligible.

- Likely impacts on **aquatic beauty:**

  - Diking and conversion modify a natural setting, making it an industrialized site. Thus, the impact of the proposed expansion on the aquatic beauty of Great Salt Lake is extensive. Cumulatively, this impact is even more significant, as a significant portion of the lake is currently developed. Diking also occurs in the wildlife management areas, the bird refuge, at the various duck clubs, the road to Antelope Island, and the causeway itself. It is a tool used for the management of the land to achieve various management objectives including wildlife habitat managment. It might be argued that all diking affects aquatic beauty but to what extent and to whom changes from individual to individual.

- Likely impacts on **water quality, water movement and water quantity:**

  - Diking and conversion impacts water quality because it interferes with the natural ebb and flow of the lake, as well as the mixing of the lake's waters. The proposed development would enclose 25,000 acres of water, as well as dike off about seven miles of shoreline on the western side of Gunnison Bay. The effects of this expanded development on water quality, together with the effects of current development, are almost certainly significant. Again, there is significant diking on

in non-industrialized areas of the lake, and there continues to be diking in these areas.

- Mineral salts extraction changes the chemistry of the waters of Great Salt Lake, at the very least, on a local level. These changes – including the effects of increased concentrations of some minerals and decreased concentrations of others – and the impacts these changes may have on the biota of the lake have never been analyzed. Changes to water chemistry, both due to current mineral extraction and due to the impacts of increased extraction should be addressed, particularly as these changes impact algae, brine shrimp and water birds. In addition, more salts are extracted from the lake every year than are added by river inflows; therefore, the long-term extraction of minerals – which is likely to change the chemistry and ultimately the characters of the lake – should be evaluated. The lake is an ever-changing, dynamic system. With or without the salt extraction industry, the chemistry of the lake is changing. The biological and chemical processes that occur in the lake will either change with the lake or they won't, with or without the mining of salt.
- Diking and the operation of solar evaporation ponds will increase evaporation from the lake with unknown impacts to water availability, water quality, wildlife habitat, wetlands and mud flats. The mere presence of evaporation ponds does not necessarily increase evaporation from the rest of the lake. The rate of evaporation is more a function of the solar intensity, and temperature than the presence of adjacent evaporation ponds.
- The expansion proposal will greatly increase the ongoing shift of minerals between Gunnison Bay and Bear River Bay, and also possibly Gilbert Bay. A full understanding of these possible shifts in minerals and their impacts to the various bays should be developed, including whether the movement of water and minerals could concentrate mercury or selenium in the receiving waters or in the waters from which the minerals and water are being removed. These effects should be quantified and analyzed. These effects cannot be analyzed until they are quantified, and they cannot be quantified until the salt extraction operations begin.
- Drought and low water will further exacerbate the water quality impacts of current and proposed operations. In addition, as the population of the Wasatch Front increases, there will be more demand for fresh water, likely resulting in less water reaching Great Salt Lake.
- Construction of the dikes will disturb lake bed sediments and stir up contaminants. In addition, the use of motors, motorized vehicles and other equipment as a result of the development could adversely impact water quality. It has not been established that there are contaminants in the lake bed sediments where the proposed evaporative ponds are to be located, if approved. The majority of the place where the solar ponds are to placed are on the exposed lake bed.
- Pumps, underwater canals, water intake points and discharge points all impact water quality, individually and cumulatively. Flushing of solar ponds impacts water quality by forcing into specific parts of the lake waters containing a high concentration of unspecified minerals. The minerals that are flushed into the lake,

come from the lake, so there is only a temporary and localized change in concentration of those minerals.

- Removal of extremely high volumes of water from the open waters of the lake and sequestering them in largely sterile evaporation ponds affects water quality and quantity available to the Great Salt Lake ecosystem. Moreover, increased evaporation of waters from the lake which will result from the construction of ponds, will also impact these values. This loss of water could lower lake levels thereby further concentrating pollutants, further restricting natural water flows as well as public access. Less than 1% of the surface area of the lake is proposed for evaporative ponds. In addition, the ponds are much more shallow than the rest of the lake so there is not "extremely high volumes of water" removed from the open waters of the lake.

- Likely **cumulative** impacts:

  - Of particularly concern are the cumulative impacts of the proposed expansion on all public resource values – navigation, wildlife habitat, aquatic beauty, public recreation and water quality. Factors such as increased storm water run off, increased recreation, and increased near-lake development all also have cumulative adverse impacts on public trust resources.
  - There are currently ten producing mineral leases totaling 171,644 acres operating within Great Salt Lake. Like the Great Salt Lake Minerals expansion proposal, these operations involve diking and conversion of a functioning ecosystem into solar evaporation ponds and similar facilities. In addition, areas of the bed of Great Salt Lake are currently leased for oil and gas development and there exists a keen interest in the leasing of tens of thousands of additional acres for oil and gas development. These activities will certainly have adverse cumulative adverse effects on public trust resources – impacts which have not been quantified or otherwise examined.

- Other considerations – **seismic activity**:

  - The lands being offered for lease lie just a few miles from the epicenter of the largest instrumentally recorded earthquake in Utah history, the Hansel Valley Magnitude 6.5 event of 1934. At the same time, the lease parcels lie adjacent to or above an even more dangerous fault – the Great Salt Lake fault – that runs submerged immediately west of Promontory Peninsula and "generates earthquakes up to at least Magnitude 7.0." Because the shaking and tsunami that would accompany any rupture of these faults is capable of causing catastrophic failure of even earthquake-strengthened structures, there is the potential of serious damage to both on shore and off-shore facilities. The failure of these facilities would adversely impact public trust resources. The management of Great Salt Lake Minerals has indicated that human presence is limited which limits the risk to life. The structures that could be impacted are mostly earthen so adverse contamination is minimal. Fault lines (which may change the surface character of

the landscape) are more than ten miles away. Seismic activity within ten miles has been limited to 2.9 or less on the Richter Scale.

5. The Bear River Bay Expansion - This project does not include Bear River Bay Expansion so no comments will be made on this section.

As reiterated above, there appears to be no information, studies, data or analysis quantifying the impacts that the construction and operation of the existing Great Salt Lake Minerals facilities and other mineral salt extraction projects already have on public trust values. This includes the operation of 22,000 acres of evaporation ponds in sensitive Bear River Bay, a critically important habitat for waterbirds. The impacts of these east side operations will be increased because the Great Salt Lake Minerals' proposed 33,000 acre expansion is designed to be a single, coordinated project, which is dependant upon the 8,000 acre expansion in Bear River Bay. The expansion proposal itself describes how the 25,000 acre expansion on the west side of the lake will increase the concentration of brine transported to the East Ponds, where the proposed 8,000 acre expansion in Bear River Bay will increase the potassium harvest from those ponds – and therefore that the west side expansion is inextricably connected to the expansion in Bear River Bay.

Without any baseline data for existing impacts from the current operations of Great Salt Lake Minerals, including the development in Bear River Bay – and thus without knowing the extent to which current mineral leasing is adversely impacting public trust resources – the Division cannot be in a position to evaluate whether expansion of these operations will negatively affect navigation, wildlife habitat, aquatic beauty, public recreation, and water quality. However, given the sheer magnitude of current operations, and the proposed expansion to nearly double the amount of the lake surface substantially altered by these evaporation ponds, it is almost certain that – cumulatively – these diking and conversion operations are impairing the public trust resources.

Of course, because of the similarity of the west and east side expansion proposals, the likely impacts described above apply equally to the Bear River Bay expansion. Noting that some concerns listed below are similar to those above, the following are issues relevant to the individual and cumulative impacts and impairments that will almost certainly result from the proposed diking and conversion expansion, focusing particularly on the resulting impacts to Bear River Bay:

- Likely impacts to **all** public trust values:
    - When added to existing development in Bear River Bay – one of the most critical habitats for waterbirds on the Great Salt Lake – the proposed diking and conversion expansion would cover 30% of this critical ecosystem in dikes and largely sterile evaporation ponds. This is because currently, Great Salt Lake Mineral has diked and converted 22,000 acres of the bay. If this development is increased by 8,000 acres, 30,000 acres of the 100,416 acre bay will be diked, converted and developed, causing significant adverse impacts to the whole suite

of public trust values. It is impossible not to impair significantly public trust values, when 30% of one of the most critical areas of the lake is essentially taken out of the trust and converted into an industrial zone and deprived of each of the very qualities that make up the trust.

- Likely impacts on **navigation** and **public recreation:**

  - The 8,000 acre expansion proposal will, at times, cut off water flows and access to and from Bear River Bay. This will severely limit the ability of the public to recreate freely on the lake and will concentrate public use in a smaller area. This in turn will adversely impact navigation and recreation in these remaining smaller areas.
  - To the extent increased diking and conversion will adversely affect water birds and wildlife, as well as scenic values, public recreation that depends upon these values will be adversely impacted.
  - Impacts to navigation and public access will be exacerbated by low water as lake volume decreases and the shoreline shrinks.
  - Increased diking and conversion will further impede navigation and access from one part of the bay to the other – access which is already significantly impaired by existing diking and conversion.

- Likely impacts on **wildlife habitat**:

  - An August 28, 1998 letter from the Division and the Division of Wildlife Resources, as well as a predecessor to the current company, Great Salt Lake Minerals Corporation, regarding a decision to exchange leased lands in Bear River Bay states plainly that the State of Utah considers the areas subject to diking and conversion as significant wildlife habitat:

    DWR [Division of Wildlife Resources] expressed interest in an exchange because the undiked areas of Bear River Bay have tremendous value to wildlife, specifically birds. Some of the values include: molting/brood rearing areas for Canada geese and ducks; a foraging area for fish eating birds such as pelicans, cormorants, western grebes, [and] great blues herons; [and a] horned grebe nesting colony.

  Memo from IMC Kalium Ogden Corp., Division of Wildlife Resources, Division of Forestry, Fire and State Lands to John Kimball, Director Division of Wildlife Resources and Arthur DuFault, Director Division of Forestry, Fire and State Lands, August 28, 1998 at page 2. A copy of this letter is attached to these comments. With regard to some of the particular parcels slated for diking and conversion, the agency stated:

  DWR also identified lands of important wildlife value in Sections 16, 17 and 18, Township 7 North, Range 4 West. These lands were not included in the lease exchange

but are valued by DWR for periods when lake level falls below 4200' in Bear River Bay.[5] DWR is particularly interested in lands which are north and northwest of the existing dikes of IMC Kalium because of bulrush colonies in this area that are important to colony nesting birds and as forage for birds. Also, at lower lake levels, this is the low point of the channel and is important as an area where the water creates a natural "lake" within the bay. IMC Kalium values these same sections for possible pond expansion but believes that by increasing its pond size in Clyman Bay, these sections will probably never be needed. IMC Kalium, BWR and DFFSL [the Division] are, as a result, now aware of areas of concern or potential resource conflicts that might arise in the future.
Id. at 3. Plainly, DWR anticipates that diking and conversion of these areas of Bear River Bay will threaten public trust values. Indeed, these statements show that the proposed expansion will interfere with and significantly impair the public trust.

- Other statements echo that Bear River Bay is of critical importance to waterbirds. As the Department of Natural Resources has confirmed:

> Bear River Bay is the freshest region and receives the largest volume of riverine inflow. Its near-surface salinity is similar to that of the Bear River. This system is bounded on the north and east by state, federal, and private wetlands; on the south by industry; and to the west by the Promontory Mountains. This bay is fresh enough to support a community of submergent hydrophytes including sago pondweed (Potamogeton pectinatus) and widgeon grass (Ruppia maritima). There are significant islands of emergent wetlands here, especially in the east part of the bay in the Willard Spur. . . . An ecological element of vital importance to pisciverus birds in this area is the fishery that persists when the lake elevation is higher than 4,200 feet (1,280.2 m) above sea level. The avian community at Willard Spur is exceptionally complex. With its species richness, diversity and overall abundance, this area continually provides one of the most magnificent displays of bird life on the lake. Although the smallest region on the lake, it makes an exceptional contribution to the lake's avian population.[6]

Because of the importance of this water body to wildlife habitat, particularly close examination of the impacts of the current and proposed expansion on ecosystem values must be undertaken.

- The Great Salt Lake Waterbird Survey, conducted from 1997 to 2001, confirms the conclusions reached by the Division of Wildlife Resources. This survey was undertaken in 12 different areas of the total Bear River Bay complex, including the Bear River Refuge, Public Shooting Grounds, and Bear River Club. The surveys occurred numerous times from early spring through fall during these five years. The survey underscores the importance of Bear River Bay to waterbirds. A map of these survey areas is attached, along with some of the bird counts data.

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[5]As of April 24, 2007, the level stood at 4197 feet. The level has been below 4198 feet for at least the last three years.

[6]*Avian Ecology of Great Salt Lake,* by Tom Aldrich and Don Paul from Great Salt Lake: An Overview of Change, edited by J. Wallace Gwynn, Ph.D., Special Publication of the Utah Department of Natural Resources, 2002.

- As noted above, Bear River Bay is of critical importance to Canada geese, huge numbers of which use the area of molting. The Utah Division of Wildlife Resources has conducted aerial surveys of Canada Geese in June in the open water of Bear River Bay since 1972. The highest count was 11,893 in 1998. The impacts to these molting geese due to an expansion of the mineral ponds in Bear River Bay are not known. What is of concern is the reduction in habitat and also the potential decrease in available wet areas, particularly in lower water years. This reduction in habitat could result due to direct loss to diked areas, as well as water quality impacts due to increased evaporation and reduced circulation.
- Increased diking and conversion will likely adversely impact wildlife and habitat due to noise and increased access of predators and humans across dikes.
- Any impact to wildlife habitat caused by increased diking and conversion is likely to be exacerbated by low water.
- Adverse impacts to water quality and decreases in water quantity will adversely affect wildlife and wildlife habitat.

- Likely impacts on **aquatic beauty:**

  - Diking and conversion change a natural setting into an industrialized setting. Thus, the impact of the proposed expansion on the aquatic beauty of Great Salt Lake is extensive. Cumulatively, this impact is even more significant, as a significant portion of the lake is currently developed. Moreover, Bear River Bay is closer to the more widely used east shore of the lake and experiences more use. As a result, the significant adverse impacts to aquatic beauty will be experienced by more people.

- Likely impacts on **water quality, water movement and water quantity:**

  - The proposed expansion would result in the diking and conversion of a total 30,000 acres of Bear River Bay into essentially sterile evaporation ponds. Diking and conversion impacts water quality because it will interfere with the natural ebb and flow of the lake, as well as the mixing of the lake's waters. Indeed, the 8,000 acre expansion proposal appears to essentially cut off water flows and access to and from Bear River Bay, particularly when water levels are low, as they currently are. In addition, as the Division of Wildlife Resources made plain, this area is important at low water levels because it creates a natural lake within the bay. IMC Kalium/DWR Memo, August 28, 1998 at 3. The effects of this expanded development on water quality, together with the effects of current development, will be significant. Specifically, circulation of fresh water, so critical to the Great Salt Lake ecosystem, will be impeded, especially during low water years. Since the open water of Willard Spur is an extremely valuable area for water birds the potential adverse impacts are certain and must be fully explored, based on flow patterns during low as well as high water years.
  - Mineral salts extraction changes the chemistry of the waters of Great Salt Lake, at the very least, on a local level. These changes – including the effects of increased

concentrations of some minerals and decreased concentrations of others – and the impacts these changes may have on the biota of the lake have never been analyzed. Changes to water chemistry, both due to current mineral extraction and due to the impacts of increased extraction should be addressed, particularly as these changes impact algae, brine flies, brine shrimp and water birds.

- Diking and the operation of solar evaporation ponds will increase evaporation from the lake with unknown impacts to water availability, water quality, wildlife habitat, wetlands and mud flats.
- The expansion proposal will greatly increase the ongoing shift of minerals between Gunnison Bay and Bear River Bay. A full understanding of these possible shifts in minerals and their impacts to the various bays should be developed, including whether the movement of water and minerals could concentrate mercury or selenium in the receiving waters or in the waters from which the minerals and water are being removed. These effects should be quantified and analyzed.
- Drought and low water will further exacerbate the water quality impacts of current and proposed operations. In addition, as the population of the Wasatch Front increases, there will be more demand for fresh water and less water reaching Great Salt Lake.
- Construction of the dikes will disturb lake bed sediments and stir up contaminants. In addition, the use of motors, motorized vehicles and other equipment as a result of the development could adversely impact water quality.
- Pumps, underwater canals, water intake points and discharge points all impact water quality, individually and cumulatively. Flushing of solar ponds impacts water quality by forcing into specific parts of the lake waters containing a high concentration of unspecified minerals.
- Removal of extremely high volumes of water from the open waters of the lake and sequestering them in essentially sterile evaporation ponds affects water quality and quantity available to the Great Salt Lake ecosystem. Moreover, increased evaporation of waters from the lake which will result from the construction of ponds, will also impact these values. This loss of water could lower lake levels thereby further concentrating pollutants, further restricting natural water flows as well as public access.

6. The Division and RDCC Must Gather and Analyze Sufficient Information to Establish Lease Stipulations and to Determine Whether Leasing Impairs Public Trust Values.

As established above, under the relevant statute, regulations, and provisions of the CMP and MLP, the Division, assisted and advised by the RDCC, and in some cases the Division of Wildlife Resources, has the obligation to:

- Safeguard navigation, fish and wildlife habitat, aquatic beauty, public recreation, and water quality of and on Great Salt Lake and ensure any use of Great Salt Lake, including diking and conversion, do not "interfere" with the protection of these values.

- Undertake site-specific planning relative to the proposed expansion that, among other things, must evaluate the impacts of the diking and conversion project on public trust values. This in turn requires ensuring that:
    - leasing and development of the 22,088 acres in Clyman Bay does not interfere, either individually or cumulatively, with the protection of public trust values; and
    - development of the 8,000 acres in Bear River Bay does not interfere, either individually or cumulatively, with the protection of public trust values.

  This analysis must be sufficiently detailed and thorough to allow compliance with public trust obligations and must occur prior to any commitment by the State of Utah to allow this proposed development of the bed of Great Salt Lake.

At the very least, at this stage in the leasing process, the MLP requires that new leases on Great Salt Lake "address significant resource issues," including navigability, bonding and reclamation, requirements for cultural and biological surveys and "monitoring requirements to track and measure long term impacts of each operation on the lake's ecosystem." MLP at 45. At the same time, RDCC as well as the Great Salt Lake Technical Team are to be consulted and management decisions coordinated with these entities. MLP at 45. Analysis is necessary so that the Division and RDCC can establish sufficiently protective lease stipulations and restrictions prior to offering these sovereign lands for competitive leasing, or – if no stipulations could be sufficiently protective – to decide not to offer the lands for leasing.

Moreover, to the extent that offering the leases for competitive bid in any way binds the State of Utah to allowing any construction and conversion on the leased lands, we contend that action on the nominations must be postponed until the Division and RDCC members have sufficient information to fulfill their public trust obligations. This requires first determining the supposed value of the proposal to dike these lands and to convert them to giant evaporation ponds, as well as the costs to public trust resources that stem from that diking and conversion. Ultimately, to determine if the proposed mineral extraction proposal is appropriate, these harms and benefits must be balanced against the statutory requirement that the diking and conversion cannot impair navigation, fish and wildlife habitat, aquatic beauty, public recreation, or water quality in Great Salt Lake.

7. Additional Obligations with Regard to Existing Bear River Bay Leases

As set forth above, the Division of Wildlife Resources attaches particular value to Bear River Bay:

> the undiked areas of Bear River Bay have tremendous value to wildlife, specifically birds. Some of the values include: molting/brood rearing areas for Canada geese and ducks; a foraging area for fish eating birds such as pelicans, cormorants, western grebes, [and] great blues herons; [and a] horned grebe nesting colony.

IMC Kalium/DWR Memo, August 28, 1998 at 2. Indeed, with regard to some of the particular parcels slated for diking and conversion, the agency further underscored the "tremendous" importance of these lands:

> These lands were not included in the lease exchange but are valued by DWR for periods when lake level falls below 4200' in Bear River Bay. DWR is particularly interested in lands which are north and northwest of the existing dikes of IMC Kalium because of bulrush colonies in this area that are important to colony nesting birds and as forage for birds. Also, at lower lake levels, this is the low point of the channel and is important as an area where the water creates a natural "lake" within the bay.

Id. at 3.

As further exemplified by these statements, expansion of the existing 22,000 acres of diked evaporation ponds in Bear River Bay by an additional 8,000 acres will interfere with and seriously impair public trust values in the bay. As a result, the Division and the Division of Wildlife Resources are duty bound to prevent this development regardless of fact that leases have been issued for these parcels. This is particularly true because there has been no public trust analysis or evaluation conducted relative to these leases and no assurances in place that the public trust will be protected.

However, various opportunities exist to allow compliance with the public trust. First, as the MLP envisions that the Division will "**[e]valuate opportunities for trading existing leases with significant resource conflicts for the right to lease in areas with less conflict.**" MLP at 45 (emphasis added). In the Decision Document for the CMP, the Division states:

> Much of the public comment reflected a desire for a blanket ban on new dikes. There is no question about the adverse affects of some dikes, but other dikes serve public purposes as well as public uses protected under the Public Trust Doctrine. A blanket ban is inappropriate, but better evaluation of diking proposals is needed than has occurred in the past.

CMP at unnumbered 7.[7]

Thus, the MLP and the CMP require, at a minimum, an examination of diking and an evaluation of opportunities to exchange leased parcels in sensitive areas. Based on statements by the Division of Wildlife Resources, full compliance with these directives is mandated with regard to the Bear River Bay parcels.

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[7] See also CMP at 78 ("The general effect of dikes on lake dynamics is acknowledged. The policy will require a more specific assessment. Blanket denial of diking proposals is not appropriate because it would preclude construction of dikes in [Wildlife Management Areas], the sovereign land portion of [Bear River Migratory Bird Refuge], and existing mineral leases. Diking proposals in these areas will be subject to the policy."); CMP at 19 ("6.4 GSL diking policy. Given the increased appreciation for habitat-related beneficial effects of fluctuating lake levels, the objective is to ensure that on-site and off-site impacts will be taken into account when diking activity is planned.").

At the same time, the relevant leases for the Bear River Bay parcels (21708-SV, 22782-SV, 24631-SV, and 25859-SV) each contain the following provision as Article I:

> This lease is granted subject to the laws of the State of Utah, existing regulations of the State Land Board and such reasonable operating regulations as may hereafter be promulgated by said board.

Thus, the Bear River Bay leases incorporate the State's constitutional, statutory and regulatory public trust obligations and the requirement that leasing and uses of the bed of Great Salt Lake not interfere with public trust values. Therefore, actions taken by the Division and other state agencies to ensure compliance with these statutory and regulatory mandates are expressly anticipated by the terms of the existing Bear River Bay leases. This in turn triggers the State's responsibility to acquire and analyze information sufficient to guarantee adherence to these requirements.

Finally, the Preamble of lease 25859-SV – the lease for the most northern Bear River Bay parcels – states as a term of the lease, the

> condition that at the end of each twenty (20) year period succeeding the first day of the year in which this lease is issued, such readjustment of terms and conditions may be made as the lessor may determine to be necessary in the interest of the State.

As the lease was issued in 1968, the State of Utah, as the lessor, is in a position to change the terms of this lease, effective January 1, 2008. Given the public trust obligations and the requirement that leasing and uses of the bed of Great Salt Lake not interfere with public trust values, such a change in terms and conditions is obligatory. This in turn implicates the need to acquire and analyze information sufficient to guarantee adherence to these requirements.

Thus, based on the relevant planning documents and existing leases, the Division and other state agencies have a chance to do what they are required to do – safeguard public trust values from any adverse impacts resulting from the development of the Bear River Bay parcels. We urge the Division and the other RDCC members to take full advantage of these opportunities.

8. Conclusion

Based on the above, we reiterate the need for the Division and the RDCC members to acquire and analyze the information they to ensure the proposed diking and conversion expansion will not harm the public trust values they are statutorily required to protect. We have set forth in detail the concerns, including those identified by the Division and other state agencies, that must be addressed in this public trust analysis. Until this information is gathered and examined, we ask that the proposal to lease the 23,088 acres in Clyman Bay be rejected.

At the same time, we urge the Division, the Division of Wildlife Resources and the other RDCC members to exercise their public trust authority to halt impending development of the Bear River Bay leases. At a minimum, prior to any development, sufficient information must be gathered

and analyzed to assess impacts of the diking and conversion, both individually and cumulatively, on public trust values in this most sensitive and important area. Based on an understanding informed by this review, we ask that the state agencies take the steps necessary to protect the public trust and safeguard Bear River Bay.

Only in these ways can the State of Utah ensure that the diking and conversion proposal does not interfere with and does not impair navigation, fish and wildlife habitat, aquatic beauty, public recreation, or water quality in Great Salt Lake.

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Director, Utah Office

cc: clients

It is also possible that mineral leasing has a positive affect on the ecosystem of the lake. Salt extraction industry removes roughly 3 million tons of salt from lake, while inflows into the lake bring roughly 2 tons of salt into the lake. Without the extractive industry the salinity of lake would increase at a greater rate which could, over time, change the plankton, algae, brine shrimp and bird usage of the lake.

There is also significant economic benefit to the leasing of the lake. There is a multiplier effect on the general economy of Utah. The extractive industries brings in millions of dollars to the state annually. The products that come from the extractive industries including the proposed expansion ponds provides beneficial uses to such industries as agriculture and mining. These are some of the economic benefits weighed against the other public trust uses of the land.